U. S. Navy COTS:
A Double-Edged Sword

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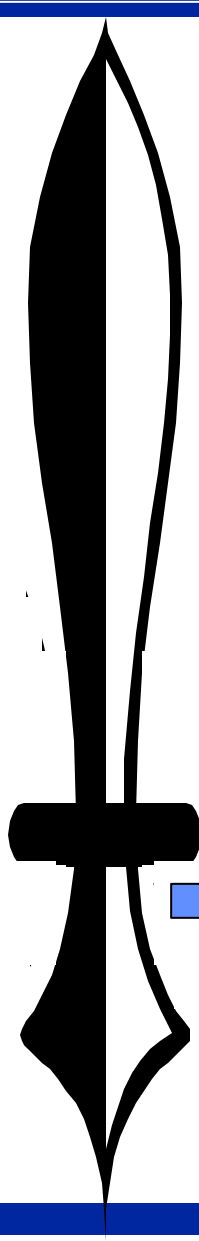
The Double-Edged Sword



Advantages

- ***Less Costly***
- ***Larger Customer Base***

Disadvantages

- ***Market-Driven***
- ***Eventual Obsolescence***

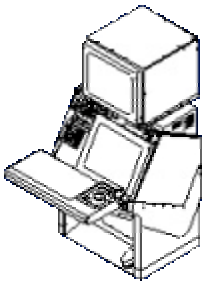
Risk Multiplier!

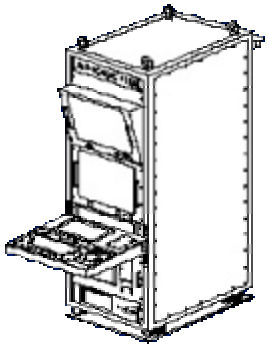
Concerns to A_O and TOC

- ***Still Being Learned…***

TAC Systems Installed

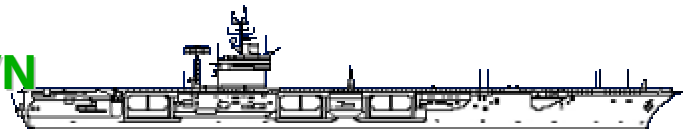
Representative Programs





- NAVSSI
- ADMACS
- ORTS*
- ATDC
- ISMS*
- FODMS*
- ATWCS
- SSNATWCS
- BFTT*
- SQQ-89*
- JMCCS/GCCS-M
- JSIPS-N
- SQQ-32*

CVN



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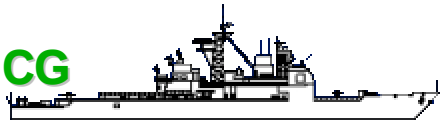

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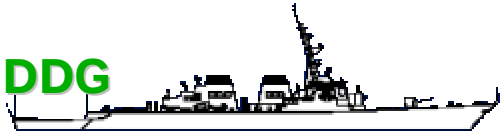

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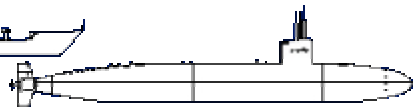
SSN

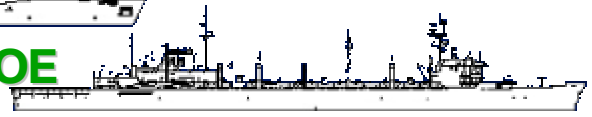


LHA

LHD

LPD

AOE



LCC

MCM

* NAVSEA Systems

2500+ Systems Delivered to 22 Navy Program Users

BACKGROUND

- **OEM Warranty Provided Support Structure**
  - Direct Parts Delivery
  - Technical Documentation
  - Technical Support Via 1-800 Help Desk
- **TAC-4 Users Relied On OEM For Support**
  - "Envisioned" 18-Month Technology Refresh Life Cycle
  - Leveraged From Commercially Integrated Logistics & Parts Support
  - TAC-4s Not Included In System Level Supportability Planning
- ***TAC-4 Warranty Period Ended 18 January 2001***
- **No Navy Support Structure Positioned To Take Over**
  - No Centralized TAC-4 Program Office Or Coordinating Activity

Did Not Understand That A Long Term Navy-Wide Support Structure Was Imperative To Avoid Adverse Impacts To Fleet Readiness

Life Cycle Supportability Areas Of Concern

SUPPORTABILITY AREA	CURRENT STATUS	TARGET STATUS
Long Term Asset Availability	Red	Yellow
Hardware Reliability	Yellow	Green
COTS Migration	Red	Yellow
Component Substitutions	Yellow	Green
Provisioning/Supply Support	Yellow	Green
Maintenance Philosophy	Red	Yellow
Engineering Technical Data	Red	Green
Configuration Control	Red	Green
Technical Manuals	Red	Yellow
Training	Red	Yellow
PERCENTAGES		
Red	70%	0%
Yellow	30%	50%
Green	0%	50%
OVERALL STATUS	**RED**	**YELLOW**

Risk Mitigation Actions Are Required To Support Transition To Target Status Within 2-3 Years

TAC-4 SUPPORTABILITY

Key Supportability Issues Identified By User Community

- **Complete Range Of TAC-4 Components Was Unknown**
  - TAC-4 User Base Not Monitored
  - Number & Types Of Workstations Purchased By Navy Undefined
  - Range/Depth Of Assets Req'd For Fleet Configurations Not Captured
- **Demand Profiles Not Driven By Actual Failure History**
  - Failures Not Recorded In Traditional 3M & NAVICP Processes
  - Current Profiles Driven By Limited Data Set & OEM Feedback
  - New TAC-4 Systems Still Being Installed In Fleet
    - Increases Overall Potential Demand Levels
- **SPAWARSYSCEN OPBL MOA First Step, But ….**
  - Not All TAC-4 Line Items Covered Via OPBL
  - Stocking levels Based On Limited Data
  - Parts Only; No Technical Assistance Available
  - Assets Only Projected To Last 3 To 5 Years

TAC-4 SUPPORTABILITY

Key Supportability Issues Identified By User Community

- **Component Supportability Structure Not Defined**
  - Obsolescence + Diminishing Vendor Sources Necessitated Life-Of-Type Buys Or Replacement Decisions
  - Risk Mitigation For Maintenance Drivers Not Isolated
  - Substitutions & COTS Migration Surfacing Integration Issues
    - Component Variations Forcing Unplanned/Unbudgeted HW & SW Modifications
  - No Advanced Product Change Notification Received At User Level
  - Users & Stock System Vied For Limited Asset Base
- **Complete Range Of Components Not Provisioned**
  - Provisioning Data Not Submitted For All TAC-4 User Systems
  - Support Items Not Defined Or Integrated Into Stock System
    - Tools, Consumables, Test Equipm't Req'd For Maintenance Not Visible To Fleet
  - Part Number Changes Impacted User Documentation
  - New Part Numbers Not Reflected In Stock System Data Set
  - No Process To Avoid Inadvertent Changes Impacting Other Users

TAC-4 SUPPORTABILITY

Key Supportability Issues Identified By User Community

- **Maintenance Philosophy Driven By OEM Not Users**
  - Users Adopted OEM Remove/Replace & Repairability Schemes
  - No Separate Preventive Maintenance Developed
  - Corrective Maintenance Supported By OEM Tech Data & Warranty
  - Direct Access To TAC-4 Technical Experts No Longer Available
  - Maintenance Supportability Not Verified Via Post Production Support Planning & Maintenance Assessments
- **Engineering & Vendor Data Not Readily Accessible**
  - Most Users Didn't Own Data Req'd To Support Fielded Systems
  - Limited User Ability To Assess Replacement Alternatives & Resolve Fleet & Repair Issues Quickly
  - Limited Accessibility To Critical Data Not Cited in OEM Documentation
  - Technology Transfer Clause Not Included In TAC-4 Contract
    - Data Rights Did Not Transfer To Gov't At End Of Contract
    - Some Users Did Procure OEM Drawing Packages

TAC-4 SUPPORTABILITY

Key Supportability Issues Identified By User Community

- **No Navy-Wide Control Over Configuration Changes**
  - Configuration Management Had Transitioned To User Level
  - No Visibility Of Changes That Could Impact Fleet Readiness
  - Technical Experts Not Monitored Changes From Navy Perspective
- **OEM TMs Don't Promote Fleet Self-Sufficiency**
  - Range & Depth Of Information Insufficient To Support Proper Preventive & Corrective Maintenance
    - TMs Supplemented Via 1-800 Help Desk Which Is No Longer Available
  - TMs No Longer Available From "Central Source"
    - TAC-4 TMs Not Integrated Into Navy Processes
- **TAC-4 Training Path System Not Established**
  - User Community Relied On JMCIS Techs To Maintain Systems
  - Failure Data Points To Insufficient Fleet Knowledge Of HW & SW
  - All Levels Of Personnel Needed Training To Ensure Fleet Readiness

Proactive Steps To Take To Focus Attention

- **User Group Survey**
  - 1st Step Towards Isolating Range Of Components Used In The Fleet
  - Encourages Users To Participate In Process
    - Limited Responses Received To Date
- **Navy-Level Supportability Assessment**
  - 10 Key Supportability Areas Evaluated
  - Current Status In **Red/ Yellow/Green**
- **Distance Support-Sponsored FRB+RM&A Analysis**
  - Initial Cut At Isolating User Community
  - Isolate High Failure Rate Items
  - Preliminary Step To Determine Realistic Demand Profiles
    - Projected Failure Rates Rooted In Complete Historical Picture

Proactive Steps To Take To Focus Attention

- **Web Site Establishment To Share & Track Information**
  - Host At Distance Support Site www.AnchorDesk.navy.mil
  - Posting Tools To Enable User Community
- **Pursue Funding Alternatives To Support Process**
  - Investigating PSD-Like Approach To Funding Life-Of-Type Buys, Obsolescence Replacements, & Technology Refresh Parts
- **Navy-Level Sponsorship Supporting User Group**
  - NAVSEA Establish New Supportability Working Group Structure
  - Foster Platform To Address All Supportability & Logistic Issues
  - Focus On Defining & Completing Actions That Ensure Life Cycle Supportability

Additional Proactive Steps Are Required To Mitigate Risk

- **Assign Single DoN Coordinator**
  - Coordination & Resolution Of Logistics Support Issues
- **Solidify COTS User Base & Range Of Components Installed In The Fleet**
- **Ensure Stocking Levels Support Projected Demands**
- **Establish Long-term Support Structures For Complete Range Of Hardware**
- **Implement Navy-Wide Processes To Effectively Manage COTS, Interchangeability, & Obsolescence Issues**
- **Integrate Navy-Wide Methodologies To Coordinate Configuration & Provisioning Change**
  - Assign System-Centric Configuration Management Point

Additional Proactive Steps Are Required To Mitigate Risk

- **Enable Fleet Self-Sufficiency**
  - Ensure Maintenance Philosophies Support COTS System Life Cycle
  - Verify Support Items Documented, Provided, & Available In System
  - Implement Navy Approach To Improve Technical Data
  - Integrate Navy-Wide Process To Control OEM Technical Data
  - Establish Direct Fleet Access To COTS System Experts
  - Investigate Navy-Wide Training Path For Users At All Levels

Previous OEM Warranties Provided 100% Sustainment Support

Navy-Wide Processes Are Required To Replace That Support & Improve Supportability Posture Now & Into The Future

Near-Future Measures

Aggressive Measures At Navy Level Are Required

- Navy-Wide “Get Well Plan” To Ensure Fleet Readiness
- Cohesive, Long Term Support Structure To Avoid Adverse Impacts To Fleet
- Mitigate Concerns Raised By User Community
- Consolidate & Rank Key Issues Based On Impact at Navy Level
- Facilitate User Level Life Cycle Management Success

Navy Management & User Community Must Work In Concert To Solve Problems

- **Strategic Plan**
  - **Innovation and Technology Opportunities Thrust**
  - **COTS Steering Charter**
  - **COTS Policy (Signed NAVSEA Policy)**
  - **Cots Guidance (NAVSEA COTS and NDI handbook)**
  - **COTS Instruction (NAVSEA Instruction)**
  - **COTS Website (http://cots.navsea.navy.mil)**

NAVSEA COTS Enablers

- **COTS Management Plans**
- **Configuration Management and Visibility**
- **Commercial Marketplace Monitoring and Research**
- **Trade-Off Analysis and Decision Tool**
- **Technical Refresh and Insertion**
  - Requirements definition
  - Budgeting